

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* KEVIN T. JONES, MELISSA BEEBE, and SHAFALI RASTOGI

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Appeal 2006-2916  
Application 09/774,330  
Technology Center 3600

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Decided: March 27, 2007

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Before WILLIAM F. PATE III, MURRIEL E. CRAWFORD, and JENNIFER D. BAHR, *Administrative Patent Judges*.

WILLIAM F. PATE III, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

This is an appeal from the final rejection of claims 1-31. These are the only claims in the application. We have jurisdiction over the appeal pursuant to 35 U.S.C. § 134.

The claimed invention is directed to a method, a computer system and a signal for scheduling a delivery of raw materials to a manufacturing line.

Claim 1 reproduced below, is further illustrative of the claimed subject matter.

1. A method for scheduling delivery of material to a manufacturer with a plurality of manufacturing lines comprising:

determining a material requirement for an operation of at least one operation on a manufacturing line of the plurality of manufacturing lines, the material requirement being based upon customer orders, the determining being performed by a module executing on a computer system; and

scheduling delivery of material to meet the material requirement from an available inventory of material to the operation on the manufacturing line, the scheduling being performed by a module executing on a computer system.

The references of record relied upon by the Examiner as evidence of obviousness are:

Jenkins US 2002/0188499 Dec. 12, 2002  
(effectively filed Oct. 27, 2000)

Mukhopadhyay, Samar K, "Optimal scheduling of just-in-time purchase deliveries" *International Journal of Operations & Production Management* vol. 15, no. 9, pp. 59-69, 1995.

Claims 1-6 and 8-31 stand rejected under 35 U.S.C. § 103 as unpatentable over Mukhopadhyay.

Claim 7 stands rejected under 35 U.S.C. § 103 as unpatentable over Mukhopadhyay in view of Jenkins.

For argument purposes, Appellants group independent claims 1, 17, 22 and 27 together on page 4 of the Brief. Claims 2-6, 8-11, 17-20 and 27-30 will stand or fall with claim 1. On page 5 of the Brief, Appellants group by argument claims 12, 13, 16, 21 and 31. Therefore, claims 13-16, 21-26 and 31 will stand or fall with claim 12.

Claim 7 stands alone.

#### FINDINGS OF FACT

The following factual findings are found by a preponderance of the evidence. The paragraph numbers refer to the handwritten numbers presumably supplied by the Examiner. Mukhopadhyay discloses a method and system for just-in-time deliveries to a manufacturing facility. Although the teachings of Mukhopadhyay are applicable to a wide range of situations, the reference talks about the implementation of the system to a single manufacturing facility that makes electrical transformers in the Midwest U.S. ¶ 7. The factory has four hubs or SLCs that provide all raw materials. These hubs are within 30 miles of the factory loading dock. ¶ 7. Before the project was instituted 5 to 10 trucks could be waiting at the loading dock at any one time. Ten to fifteen trucks arrive each morning. ¶ 7. Thus, we infer that some or all Hubs or SLCs supply multiple trucks to the factory each day.

The overarching premise of the just-in-time scheduling of the reference is that the trucks' due times are set to coincide with the respective materials' due times or what Appellants term "need-by times" so that no material is unloaded and stored, that production is not held up waiting on needed materials, but that all needed materials arrive at the loading dock and can be unloaded and taken to the manufacturing line precisely when needed. We infer from this premise and our observation about multiple trucks that material is divided between next truck and following truck based on the need-by time of the materials. Otherwise material placed on the next truck and delivered before its need-by time would have to be stored on site in contravention of the overarching premise disclosed in the reference. Thus, we are of the view that Mukhopadhyay does disclose a method for scheduling wherein a determination is made as to whether a following truck scheduled for delivery would be soon enough to satisfy the need-by time rather than placing material on a next truck.

Furthermore, we are of the view that it is inherent in Mukhopadhyay that the shop floor orders are drawn up each day at noon for the subsequent day's production based on customer demand. This is well known in the art and admitted by Appellants at 2:17-20 in Appellant's Specification. We note that the claims do not specify actual customer orders over forecast customer orders.

We further find that the delivery system of Mukhopadhyay is implemented in a computer system. The requirements are transmitted to the hubs or SLCs electronically. ¶ 7. Thus demand is embodied in a computer program and as a signal.

On the other hand, Mukhopadhyay is silent with respect to the feature of determining whether a later opportunity to request identified material exists and delaying requesting such material if the later opportunity is found to exist. The presence of this step in Mukhopadhyay process cannot be inferred from the disclosure.

#### PRINCIPLES OF LAW

“A claimed invention is unpatentable if the differences between it and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the pertinent art.” *In re Kahn*, 441 F.3d 977, 985, 78 USPQ2d 1329, 1334-35 (Fed. Cir. 2006) citing 35 U.S.C. § 103(a) (2000); *Graham v. John Deere Co.*, 383 U.S. 1, 13-14, 148 USPQ 459, 467 (1966). “The ultimate determination of whether an invention would have been obvious is a legal conclusion based on underlying findings of fact.” *Id.* (citing *In re Dembicza*k, 175 F.3d 994, 998, 50 USPQ2d 1614, 1616 (Fed. Cir. 1999)).

“In assessing whether subject matter would have been non-obvious under § 103, the Board follows the guidance of the Supreme Court in *Graham v. John Deere Co.* 383 U.S. at 17, 148 USPQ at 467. The Board determines ‘the scope and content of the prior art,’ ascertains ‘the differences between the prior art and the claims at issue,’ and resolves ‘the level of ordinary skill in the pertinent art.’” *Id.* (citing *Dann v. Johnston*, 425 U.S. 219, 226, 189 USPQ 257, 261 (1976)) (quoting *Graham*, 383 U.S. at 17, 148 USPQ at 467). “Against this background, the Board determines whether the subject matter would have been obvious to a person of ordinary

skill in the art at the time of the asserted invention.” *Id.* (citing *Graham*, 383 U.S. at 17, 148 USPQ 467).

## ANALYSIS

At the outset we are in agreement with the Examiner that Appellants’ claim language dealing with a plurality of manufacturing lines wherein the subsequent method steps are optionally performed on a single manufacturing line do not add patentability to the claim method. The naming of apparatus in a method claim wherein the apparatus is subsequently not used in the method is not seen as limiting the method in any regard.

Appellants argue that Mukhopadhyay does not show: 1) a plurality of lines, which as noted above are not used in the claimed method, 2) material requirements being based on customer orders, and 3) scheduling delivery to meet requirements of the manufacturing line. With regard to customer orders, it is our finding that the shop floor orders are based on customer orders whether they be actual orders from the customer or orders generated from purchasing history. Appellants admit that it has been routine to base orders on a forecast of customer demand based on past sales. Predicted orders based on past sales are seen to be based on customer orders notwithstanding the fact that these historical orders are not current orders. The claims do not require current orders to be the basis of the shop floor workup as taught by Mukhopadhyay.

Appellants further argue that Mukhopadhyay does not schedule delivery based on meeting manufacturing requirements. As discussed in our findings of fact, we disagree with this argument. Mukhopadhyay clearly stages his deliveries so that the correct materials are in place at the dock

when needed and the materials are transported directly to the shop floor from the dock. The rejection of claims 1-6, 8-11, 17-20, and 27-30 is affirmed.

We disagree with the Examiner that Mukhopadhyay expressly or inherently discloses determining whether a later opportunity to request identified material exists and delaying requesting such material if the later opportunity is found to exist. We believe that it is just as likely that the shop floor material requirements are generated on an incremental basis. For example, if twenty of item A are to be manufactured first, the materials for item A are added to the first arriving trucks. There is no disclosure of specifically delaying the loading of material when it is found that another opportunity to decide to load such material will present itself before the need-by time in question. Accordingly, the rejection of the claims that require this step is reversed. These claims are 12-16, 21-26, and 31.

With respect to claim 7 we are in agreement with the Examiner that Jenkins shows an inventory control system that accounts for in-transit supplies. We agree that it would have been obvious to account for in-transit materials in the just-in-time method of Mukhopadhyay as taught by Jenkins. The rejection of claim 7 is affirmed.

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## CONCLUSION

The rejections of claims 1-11, 17-20 and 27-30 have been affirmed.  
The rejection of claims 12-16, 21-26 and 31 are reversed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a) (1) (iv).

## AFFIRMED-IN-PART

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HAMILTON & TERRILE, LLP  
P.O. BOX 203518  
AUSTIN TX 78720